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**Introduction:** Previous reports suggested that the strong signal attenuation in coronary optical coherence tomography (OCT) image is a sign of red thrombus or soft plaque, whereas the effect of the distance from the Imagewire has been ignored. The aim of this study is to investigate the impact of wire-lumen distance on the signal attenuation of OCT image in stent restenosis tissue. **Methods and Results:** We screened 14 lesions showing in-stent restenosis defined as area stenosis over 50% in OCT image and analyzed 592 optimal frames. Wire-lumen line was delineated automatically by dedicated software. The signal intensity from the wire-lumen line to the restenosis tissue was measured. The signal attenuation index (SI200/400) was calculated as shown in Figure. If the wire-lumen distance is less than 250 micron, the longer the wire-lumen distance was, the more SI200/400 increased (Figure). **Conclusion:** The signal attenuation is affected by the wire-lumen distance when it is short. This effect is supposed to be much less in next generation OCT system.

